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MEMORANDUM REGARDING SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
COMMENTS ON COMPREHENSIVE BACKGROUND REPORT NAS KEY WEST FL  
4/23/1997  
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

7046-3.1

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**MEMORANDUM**

**TO:** Jim Smith, Director  
Florida Keys Service Center, Executive Office

**THROUGH:** David B. Thatcher, Director  
Lower West Coast and Special Projects Division, Planning  
Department

**FROM:** Richard Alleman, Senior Environmental Scientist  
Lower West Coast and Special Projects Division, Planning  
Department

**DATE:** April 23, 1997

**SUBJECT:** Comments on the Comprehensive Background Report for Naval Air  
Station Key West.

In summary, I have serious reservations about the use of the information contained in this report. I do not believe the approach assures protection or restoration of the aquatic ecosystem.

From my interpretation, the approach includes two methods: criteria based on environmental "background" constituent data and standard CERCLA human health risk based criteria. CERCLA criteria are not necessarily adequate to protect aquatic ecosystems since they were designed only to assess a level of impact to *Homo sapiens*. Other, possibly more stringent criteria are likely needed to protect the other species present in the Florida Keys.

In regard to the "background" criteria, there appears to be a presumption that existing contaminants in industrial and urban areas in and near the base are not the responsibility of the military, and only contaminants at specified sites (i.e. CERCLA/RCRA) need to be cleaned up. The reported "background" data collected are not necessarily indicative of actual background or unimpacted areas within the marine sanctuary. This is because most of the background sampling locations appear to be located near potential sources on or near the base. Background monitoring should be located away from any sources of contaminants.

I am very disappointed in the methods chosen to analyze the data. First, outliers were culled by a subjective process (professional judgement) but considered to be **statistical** outliers (an objective process). Perhaps their method needs to be

explained in greater detail.

Secondly, the only statistics in the report are arithmetic means and standard deviations. I assume that they have chosen to use the means to characterize ambient conditions. Many of these statistics cannot be used to characterize ambient conditions because the variability is too great as indicated by the standard deviation. For example, unacceptable means are present at the following proportion in the tables: 47% soil (3-1), 50% sediment (4-1), 40% surface water (5-2), 17% ground water (6-1), 26% tissue (7-2-7). In addition, the variability is so high in most of the other data sets as to render the means virtually worthless. This is an unacceptable method to characterize pollutants.

The report mentions toxicity results contained in a supplemental RI report. I have not seen these data, but in general, properly conducted toxicity bioassays provide better information for environmental evaluation. For example, toxicity in pore waters of samples collected within an OFW could be considered degradation.

Finally, I noticed that many of the apparent detection limits for organic parameters were exceedingly high. The potential effect of this is to create more ambiguous "undetectable" results when in fact, something may be detectable by using better methods. This could also cause a problem in the way undetectable results are handled in the analysis. To conduct statistical analysis they replaced ambiguous undetectable values with half the detection limit. If the detection limit is high, say 4000 parts per trillion, then it may appear that the ambient concentration of some organic compound is 2000 parts per trillion when, in fact it may be much lower.

I recommend that we obtain and review any other environmental data that are available and gain a complete understanding of the planning and permitting issues related to transfer of federal property. If you have any questions, please call me (6716).



## South Florida Water Management District

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DELIVER TO: Phillip Williams

NAS Key West

FROM: Rick Alleman

Division/Department/Office: Lower West Coast & Special Projects Div., Planning Dept.

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SUBJECT: Comments on background report.

MESSAGE:

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